

The following description has been carefully compiled from the reports of a number of reliable witnesses who observed the storm from points within 100 yards of the track:

A funnel-shaped, bounding cloud seemed to rise and fall with a darting, irregular forward movement. The lower end of the funnel reached within ten feet of the ground and appeared to be not more than six inches in diameter at a distance of 100 yards, but the upper portion was much larger. Many streaks of lightning were working inside like snakes of fire. The funnel appeared to be open at the top and a distinct glow was cast upward.

Several persons on both the north and south sides of the path state that they saw "small balls of fire" thrown out of the front and sides of the funnel, but none were observed in the rear. It should be stated that many small houses were destroyed in which large fireplaces were used. It may be that the "balls of fire" were due to burning débris lifted up and thrown off by the storm.

Light rain continued at intervals until 8:15 p. m., and again from 9:25 p. m. to 10:00 p. m. No hail was observed here, but hail was observed three miles southwest of the station. The temperature fell gradually during the night and the relative humidity the following morning was 53, an unusually low percentage for this section.

The path of the tornado was traced about eleven miles. Its average width was 150 yards, but the width wherein buildings were destroyed and trees uprooted in large numbers was not over 100 yards, except at a few places. The general direction was east-northeasterly, with slight variations from a straight course. Beginning at a point about seven miles southwest of Meridian the disturbance damaged and uprooted trees along a path 100 to 200 yards wide for one mile. It then lifted and was observed a mile west of Arundel Springs, in the form of a dark cloud moving northeastward. The first building destroyed was a barn one mile west-southwest of Meridian. From this point the path was practically continuous, though some property was only slightly injured, while other buildings were completely demolished. Approaching the city the cloud assumed a distinct funnel shape, and curved slightly eastward, damaging and destroying many small houses in that quarter of the town known as Fewell's Survey; turning slightly to the northward, it moved along and gradually crossed the New Orleans and Northeastern and the Alabama and Vicksburg railroad tracks, and unroofed the building of the Meridian Light and Power Company, thereby cutting off the electric light current. Here also the gas tank was raised momentarily; this had the effect of putting out the gas lights for about ten minutes. Moving eastward the tornado destroyed a freight depot, unroofed several buildings, and then reached the point of greatest destruction, completely demolishing every building in two blocks; but on reaching Lindley Hill the storm turned northeastward across Georgetown, and was traced beyond the city limits east-northeastward for two miles, where the path spread to half a mile and gradually disappeared.

[Extract from New Orleans Times-Democrat, March 4, 1906.]

Following a drizzling rain all during Friday afternoon, a premature darkness settled over Meridian shortly after 6 o'clock. \* \* \* As described by eyewitnesses, the storm assumed the appearance of a lofty ball of fire as it swept along its pathway of destruction.

Meehan Junction, the first place damaged, is twelve miles southwest of the city. \* \* \* The storm next struck the fertilizer plant, just below the city limits. \* \* \*

In describing the storm it is said:

There was a great roaring like that made by a locomotive under heavy steam pressure and then came a shock like the meeting of heavy trains. Those on the outside claim that a cone of fire or "red glow" filled the center of the tornado, and all claim that the point of the inverted cone was so small and sharp that it could not have covered the full path of destruction.

An eyewitness says:

There was all the stillness and calm that precedes one of these horrible freaks of the elements. The humidity became almost unbearable. \* \* \* A fine, drizzling rain prevailed during the day at Meridian. Late in the afternoon dark clouds hovered around the city and the humidity at times was rather severe. Shortly after 6:15 o'clock a terrible looking cloud could be observed bounding out of the southwestern horizon toward the city. This was followed by a downpour of rain; then with a rush and noise that struck terror, the tornado descended upon that portion of the city near the passenger depot.

#### RECENT ADDITIONS TO THE WEATHER BUREAU LIBRARY.

H. H. KIMBALL, Librarian.

The following titles have been selected from among the books recently received, as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies. Most of them can be loaned for a limited time to officials and employees who make application for them.

**Aachen.** Meteorologisches Observatorium.

Deutsches Meteorologisches Jahrbuch. 1904. 76 pp. f°. Karlsruhe. 1906.

**Agemennone, Giovanni.**

La registrazione dei terremoti. 136 pp. 8°. Roma. 1906.

**Arrhenius, Svante.**

Die vermutliche Ursache der Klimaschwankungen. 10 pp. 8°. Uppsala. 1906.

**Bulgaria.** Central Meteorological Institute.

Tremblements de terre en Bulgarie. No. 5 . . . 1904. viii, 283 pp. 8°. Sofia. 1905.

**Coblenz, William W[eben].**

Investigations of the infra-red spectra. v, 330 pp. 8°. Washington. 1905.

**Conseil Permanent International pour l'Exploration de la Mer.**  
Einfluss des Windes auf die Dichte und die Bewegung des Meeresswassers von J. W. Sandström. (Publications de circonstance No. 18.) 6 pp. f°. Copenhague. 1904.

Oberflächentemperaturmessungen in der Nordsee . . . von E. van Everdingen und C. H. Wind. (Publications de circonstance No. 14.) 10 pp. 4°. Copenhague. 1904.

On the influence of the east Icelandic polar stream on the climatic changes of the Faroe Isles, the Shetlands and the north of Scotland. By Martin Knudsen. (General report on the work of the period July, 1902-July, 1904. Rapports et procès-verbaux. Vol. III. Edition anglaise. Appendix C.) 8 pp. f°. Copenhague. 1905.

On the probable occurrence in the Atlantic current of variations, periodical and otherwise, and their bearing on meteorological and biological phenomena, with an introduction by Otto Pettersson. (General report on the work of the period July, 1902-July, 1904. Appendix A.) x, 26 pp. f°. Copenhague. 1905.

**Coimbra.** Observatorio Meteorologico.

Observações meteorológicas e magnéticas . . . 1901. viii, 152 pp. f°. Coimbra. 1906.

**Eiffel, G[uillaume].**

Étude comparée des stations météorologiques de Beaulieu-sur-Mer (Alpes-Maritimes) Sèvres (Seine-et-Oise), Vacquey (Gironde) pour l'année 1904. vii, 156 pp. f°. Paris. 1905.

Same. Atlas des planches. 12 plates. f°. Paris. 1905.

Types généraux de comparaisons météorologiques appliqués à l'étude des stations de Beaulieu-sur-Mer (Alpes-Maritimes) Sèvres (près Paris) et Vacquey (Gironde) pour l'année 1905 (Premier semestre). 71 pp. f°. Paris. 1905.

**Flammarion, Camille.**

Thunder and lightning. Translated by Walter Mostyn. 281 pp. 8°. Boston. 1906.

**Greenwich.** Royal Observatory.

Results of the magnetical and meteorological observations. 1903 v. p. f°. Edinburgh. 1904.

**India.** Meteorological Department.

Rainfall of India. 1904. v. p. f°. Calcutta. 1905.

**Kharkov.** University. Meteorological Observatory.

Results des observations . . . 1902. [Russian and French text.] 131 pp. 8°. Kharkof. 1905.

**Pittman, Philip.**

The present state of the European settlements on the Mississippi . . .

An exact reprint of the original edition, London, 1770; edited, with introduction, notes, and index, by Frank Heywood Hodder. 165 pp. 8°. Cleveland. 1906.

**Royal Society of Edinburgh.**

Proceedings. Vol. XXIV. Sessions 1901-2, 1902-3. viii, 667 pp. 8°. Edinburgh. 1904.

Same. Vol. XXV. Sessions 1903-4, 1904-5. 1905. viii, 1259 pp. 8°. Edinburgh. 1906.

- Transactions. Vol. XLI. Parts I and II. Sessions 1903-4, 1904-5. 469 pp. 4°. Edinburgh. 1904.
- Same. Vol. XLIII. Meteorology of the Ben Nevis observatories. Part III. 564 pp. 4°. Edinburgh. 1905.
- Regensnetz in Liv-, Est- und Kurland.** Bericht über die Ergebnisse der Beobachtungen... 42 pp. 8°. [Yuriev. 1905.]
- Saxony. Königliches Sachsisches Meteorologisches Institut.** Deutsches meteorologisches Jahrbuch für 1901. (94), 172 pp. 4°. Chemnitz. 1905.
- St. Petersburg. Imperial Forestry Institute. Meteorological Observatory.** Observations 1904. [Russian and French text.] iv, 37 pp. 1°. St. Petersburg. 1905.
- Smithsonian Institution.** Report of the United States National Museum. xvi, 780 pp. 8°. Washington, 1906.
- Vincent, A.** A propos du concours de prévision du temps de Liège. 3 pp. 8°. Bruxelles. 1906.
- Württemburg. Königliches Meteorologisches Zentral Station.** Deutsches meteorologisches Jahrbuch. 1902. 58 pp. 1°. Stuttgart. 1905.
- Yuriev. University. Meteorological Observatory.** Meteorologische Beobachtungen... 1904. 134 pp. 8°. Yuriev. 1905.
- Zi-ka-wei. Observatoire Météorologique, Magnétique et Sismologique.** Reduction des observations de température 1873-1903. xi, 56 pp. 1°. Chang-hai. 1905.

#### RECENT PAPERS BEARING ON METEOROLOGY.

H. H. KIMBALL, Librarian.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers or other communications bearing on meteorology or cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled; it shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau. Unsigned articles are indicated by a —

*London, Edinburgh, and Dublin Philosophical Magazine. 6th Series. Vol. 11. Apr., 1906.*

Bragg, W. H. On the recombination of ions in air and other gases. Pp. 466-484.

*Popular Astronomy. Northfield, Minn. Vol. 14.*

Maunder, Edward Walter. The solar origin of terrestrial magnetic disturbances. Pp. 228-238.

*Proceedings of the Royal Institution of Great Britain. London. Vol. 17, pt. 3.*

S[haw], W[illiam] N[apier]. Some aspects of modern weather forecasting. [Abstract.] Pp. 246-247.

*Scientific American. New York. Vol. 94. Mar. 24, 1906.*

— The duration of lightning flashes. Pp. 246-247.

— Some recent foreign flying machines. Pp. 252-253.

*Scientific American Supplement. New York. Vol. 61. Apr. 21, 1906.*

McAdie, Alexander. Lightning and the electricity of the air. Pp. 25332-25334.

*Symons's Meteorological Magazine. London. Vol. 41. Mar., 1906.*

Rambaut, Arthur A. The green flash on the horizon. Pp. 21-23.

Dines, W. H. A recording anemometer for kites. Pp. 24-26.

Bonacina, L. C. W. Localization of snow on the Surrey Hills, on February 24, 1906. [Distribution of snow covering in relation to the nature of the subjacent soil.] Pp. 28-29.

*Transactions of the Royal Society of Edinburgh. Edinburgh. Vol. 40, pt. 3.*

Mossman, R[obert] C[ockburn]. The meteorology of Edinburgh. Pp. 469-509.

*Annuaire de la Société Météorologique de France. Paris. 54 année. Fév., 1906.*

Angot, Alfred. Règle pour le calcul de l'humidité atmosphérique. Pp. 50-57.

Eiffel, G[uistave]. Mesures thermométriques en météorologie. Pp. 57-61.

Angot, Alfred. Remarques au sujet de la note de M. Eiffel. Pp. 61-64.

Rivière, Ch. La pluie à Alger d'après les observations faites au Jardin d'Essai de 1868-1905. Pp. 68-71.

*Archives des Sciences Physiques et Naturelles. Genève. 4 période. Tome 21.*

Dufour, Henri and Raoul, Gautier. Les ombres volantes. Pp. 196-201.

*Bulletin de la Société Belge d'Astronomie. Bruxelles. 11 année. Fév., 1906.*

Brunhes, Bernard. Rapport sur le concours de prévision du temps, organisé par la Société Belge d'Astronomie en 1905. Pp. 57-77.

Guilbert, Gabriel. Principes de prévision du temps. Pp. 77-81.

Guarini, E. Sur l'électricité. [Projects for utilizing electrical dis-

charges in the atmosphere.] Pp. 96-98.

*Bulletin de la Société Belge d'Astronomie. Bruxelles. 11 année. Mars, 1906.*

Durand-Gréville, E. Concours de prévision du temps. Pp. 117-125.

F., A. Le poids d'un flacon de neige. Pp. 150-151.

*Ciel et Terre. Bruxelles. 27 année. 1 Mars, 1906.*

— Photographies d'aurores boréales et de leur spectre. [Note on work by J. Sykora.] Pp. 22-23.

*Ciel et Terre. Bruxelles. 27 année. 16 Mars, 1906.*

Teisserenc de Bort, L[eon]. Quelques des problèmes actuels de la météorologie. Pp. 32-40.

*Ciel et Terre. Bruxelles. 27 année. 1 Avril, 1906.*

Rahir, Edm. Étude thermométrique de la grotte de Remouchamps. Pp. 59-73.

*Revue Néphologique. Mons. Mars, 1906.*

Bracke, E. La brume et les nuages. Pp. 17-19.

*Beiblätter zu den Annalen der Physik. Leipzig. Band 30. 1906. Probebogen.*

Ebert, H. Ueber die hydrodynamische Theorie der seiches. [Ab-

stract of article by Chrystal.] P. 14.

Gaea. Leipzig. 42 Jahrgang. Mai, 1906.

Götz, W. Fortschreitende Änderung in der Bodendurchfeuchtung. Pp. 270-281.

— Magnetische Wirkungen des Blitzes auf vulkanische Gesteine. Pp. 312-313.

*Meteorologische Zeitschrift. Braunschweig. Band 23. März, 1906.*

Hann, Julius. Meteorologie des Nordpolarbassins. [Abstract of work by Mohn.] Pp. 97-114.

Lüdeling, G. Ueber die Registrierungen des luftelektrischen Poten-

tentialgefäßes in Potsdam im Jahre 1904. Pp. 114-121.

M. Möller. Ueber Cirruswolken. Der Cirrusschopf am Ballenge-

wölk. Pp. 122-126.

Sapper, Karl. Regenmessungen in der Republik Guatemala 1904. Pp. 127-129.

— Stewart über das Klima von Südafrika. P. 130.

— Meteorologische Beobachtungen zu Lagos. P. 133.

— Resultate der meteorologischen Beobachtungen zu Alt-Calabar im Jahre 1902. Pp. 133-134.

— Prohaska: Ueber die jährliche und tägliche Periode der Gewitter und Hagelfälle in Steiermark, Kärnten und Krain. Pp. 134-137.

— Gewitter in Sachsen-Altenburg. P. 139.

— Meteorologische Beobachtungen in Britisch Honduras 1904. P. 142.

— Meteorologische Beobachtungen an der Goldküste. Pp. 142-143.

*Petermanns Mitteilungen. Gotha. Band 52. 1906.*

Supan, [Alexander]. Die Erforschung der höheren Luftschichten über dem Atlantischen Ozean im Sommer 1905. Pp. 20-22.

Hopfner, Friedrich. Die thermischen Anomalien auf der Erdober-

fläche. Pp. 32-36.

— Der jährliche Gang der Temperatur auf der Erdoberfläche. Pp. 37-38.

*Physikalische Zeitschrift. Leipzig. 7 Jahrgang. 1 Apr., 1906.*

Nippoldt, A[lfred]. Zum Einfluss der totalen Sonnenfinsternis vom 30 August 1905 auf die erdmagnetischen Variationen. Pp. 242-248.

*Das Wetter. Berlin. 23 Jahrgang. Feb.-Mar., 1906.*

Stiepani, Martin. Luzon in seinen klimatischen Beziehungen. Pp. 31-36; 59-64.

Sprung, A. Ueber Regenstreifen. Pp. 49-59.

*Hemel en Dampkring. Amsterdam. 3 Jahrgang.*

Nell, Chr. A. C. Uitkomsten der waarnemingen omtrent poolban-

den, van 1874 tot 1894 hoofdzakelijk te Groningen en te Oosterbeek (bij Arnhem). Pp. 169-174.

Nell, P. J. G. De belangstelling in de meteorologie. Pp. 174-177.

Nell, Chr. A. C. De halo's. Pp. 176-182.

#### THE OPPORTUNITIES OF THE WEATHER SERVICE.

The recall of Mr. Ashley from Hawaii to Pittsburg, while a promotion of an excellent man to one of the most responsible positions in the service, would, of course, not have been ordered had it not been for the opening made by the appointment of his predecessor, Mr. Ridgway, to the position of Commissioner of Public Safety of the city of Pittsburg. Mr. Ridgway has a lifelong record of sterling integrity, conscientious devotion to duty, and energetic ability in matters of usefulness. His case is one of the best examples of the development of a young man under the training and discipline